

CLAIMS

1. Twin-nozzle print head (30,30') for a continuous inkjet deflection printer, the print head (30,30') comprising:
- an ink drop generator assembly (116,116') having two inkjet ejection nozzles (31,32), each of the nozzles having an axis, and arranged along this axis,
  - charge electrodes (120,120'),
  - first (2,2') and second (3,3') deflection electrodes deflecting charged drops, these deflection electrodes (2,2'; 3,3') each having relative to jet ejection nozzles (31, 32) an upstream part (15) and a downstream part (16), an active surface (11,10) of each deflection electrode (2,3) being a surface of said electrode (2,2'; 3,3') lying opposite a succession of drops,
  - a single ink drop recovery gutter (6) for both nozzles (31,32),
- characterized in that the axes of nozzles (31,32) converge at a point located on an axis of a single inlet orifice (61) of the single recovery gutter (6) in the vicinity of this orifice (61) or upstream of this gutter (6).
2. Twin-nozzle print head (30,30') as in claim 1, characterized in that it has a plane of symmetry which is a plane perpendicular to a plane defined by the converging axes of jet ejection nozzles (31,32) and containing a bisector of the angle formed between said converging axes of ink jet ejection nozzles (31,32).

3. Twin-nozzle print head (30,30') as in claim 1, characterized in that the first deflection electrode (2,2') deflecting charged drops is a first electrode (2) common to the drops derived from ink jet ejection  
5 nozzles (31,32), this common deflection electrode (2) for charged drops being located between the second deflection electrodes (3,3') for charged drops.

4. Twin-nozzle print head (30,30') as in claim 2, characterized in that the first deflection electrode  
10 (2,2') deflecting charged drops is a first electrode (2) common to the drops derived from ink jet ejection nozzles (31,32), this common deflection electrode (2) for charged drops being located between the second deflection electrodes (3,3') for charged drops.

15 5. Twin-nozzle print head (30,30') as in any of claims 1 to 4, characterized in that the active surface (11) of the first deflection electrode (2) deflecting drops from a jet has a first concave longitudinal curvature whose local radius of longitudinal curvature  
20 is located in the plane formed by the converging axes of inkjet ejection nozzles (31,32), in that the active surface (10) of the second deflection electrode (3) deflecting drops from said same jet has a first convex longitudinal curvature, and in that the first  
25 deflection electrode (2) deflecting drops from said jet, in its downstream part (16), has a recess (12) having a contour (38).

6. Print head (30,30') as in claim 5, characterized in that contour (38) has a most upstream  
30 point located in the vicinity of the intersection before recess of said first deflection electrode (2)

deflecting said jet, with the axis of said ejection nozzle (31,32) of said inkjet.

7. Print head (30,30') as in either of claims 5 or 6, characterized in that the recess (12) has symmetry relative to the plane defined by the converging axes of inkjet ejection nozzles (31,32).

8. Print head (30,30') as in any of claims 5 to 7, characterized in that the width of recess (12) ranges between two and 10 times the diameter of the ink drops.

9. Print head (30,30') as in any of claims 5 to 8, characterized in that the recess (12) is in the form of an oblong slit of which one opening leads to a part (22) which is the most downstream of first electrode (2).

10. Print head (30,30') as in any of claims 5 to 9, characterized in that the space between the active surfaces (10,11) of deflection electrodes (3,2) deflecting a jet derived from a nozzle (31,32) is substantially constant from upstream to downstream of the electrodes and lies between 4 and 20 times the diameter of the ink drops.

11. Print head (30,30') as in any of claims 1 to 10, characterized in that one edge (22) the most downstream of a first deflection electrode (2) is more downstream than a surface (21) that is most downstream of recovery gutter (6).

12. Print head (30,30') as in any of claims 5 to 11, characterized in that the second deflection electrode (3) deflecting an inkjet has a groove (14) along an axis contained in the plane defined by the converging axes of nozzles (31,32).

13. Print head (30,30') as in claim 12, characterized in that a bottom of groove (14) is joined to the active surface (10) of said second electrode (3) via a surface curved transversely along curve radii of greater value than the radius of the ink drops.

14. Print head (30,30') as in any of claims 5 to 13, characterized in that tongues (24,25) of said first jet deflection electrode formed either side of recess (12) and second deflection electrode (3) deflecting the same jet are curved transversely along curve radii of greater value than the radius of the ink drops.

15. Print head (30,30') as in any of claims 5 to 14, characterized in that the nozzles (31,32) have different diameters.

16. Print head (30,30') as in any of claims 5 to 15, characterized in that orifice (61) of gutter (6) is of oblong shape.

17. Printer characterized in that it is equipped with a print head according to any of the preceding claims.